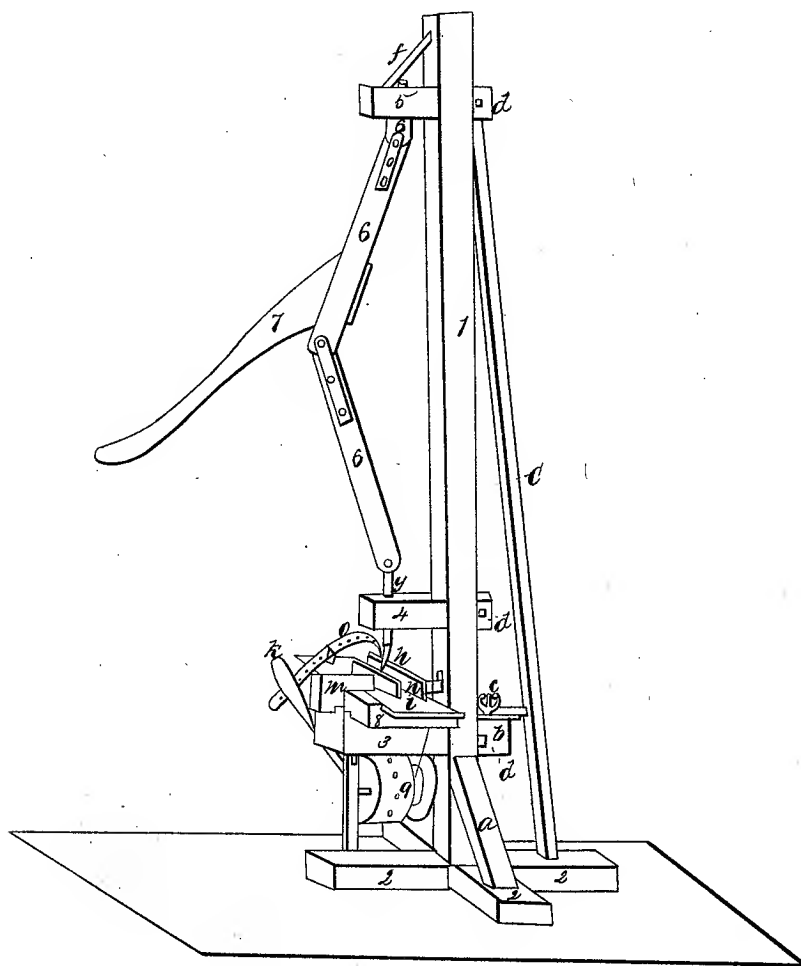


J. Brainerd,
Mortising Machine.
N^o 570. Patented June 9, 1838.



UNITED STATES PATENT OFFICE.

JEHU BRAINERD, OF AURORA, OHIO.

MACHINE FOR MORTISING AND DOVETAILING.

Specification of Letters Patent No. 570, dated January 9, 1838.

To all whom it may concern:

Be it known that I, JEHU BRAINERD, of Aurora, in the county of Portage and State of Ohio, have invented a new and useful
5 Machine for Mortising and Dovetailing by Manual Power; and I do hereby declare that the following is a full and exact description.

10 The nature of my invention consists in applying the power of the toggle or roll joint to mortising and dovetailing.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

15 The machine consists of a post (1) seven feet long and four inches square, set into cross pieces (2) for a base, and made fast with an iron screw bolt, the nut of which is set into the post. There is a brace (a)
20 on each side with eleven inches run on the post. A bed piece (3) eighteen inches long to the shoulder, with a tenon twelve inches long, (b) into the back end of which a screw bolt is set (c) to fasten the gages. This
25 tenon passes through the post in a mortise eleven inches long, and is capable of being elevated or let down as may be necessary, and fastens by a key (d), on the back side of the post. The lower part of this mortise is even with the top of the brace (a).
30 The eye block (4) nine inches long to the shoulder, is framed through the post, six inches above the mortise for the bedpiece and fastened by a key (d) on the back side.
35 Six inches from the post is a hole perpendicularly through this block, and boxed for the chisel stock.

A head block thirteen inches long to the shoulder, is framed through the post, three
40 feet above the eye-block, and fastened by a key (d) with a brace (e) from the under side of the tenon to the cross piece (2) on the back side. A brace (f) runs from near the end on the front side to the top of the
45 post. Six inches from the shoulder and on a line with the boxes for the chisel stock, is a hole through the head block, for a round tenon on the upper section of the toggle joint.

50 The toggle or roll joint is composed of three sections, three and a half inches by two inches diameter. The upper section is three inches long (6), with a round tenon six inches long, and fitting the hole in the
55 head block, and secured with a pin, so that the joint can be turned to the right or left.

The joints articulate on round and hollow surfaces formed in the longest diameter of the timber, and fastened together by iron straps nailed or screwed to the hollow part
60 and suspended on an iron pin passing through the center of the roll part of the joint. The chisel stock (g) is made of iron fourteen inches long; two inches of the upper end is square with a $\frac{3}{4}$ inch hole through
65 it one inch from the end by which it is fastened with an iron pin through the longest diameter of the timber, to the lower part of the toggle joint, which is fitted to receive it in the center. The remainder of the chisel
70 stock is turned to the diameter of $1\frac{1}{4}$ inches, with a hole of half an inch diameter bored into the lower end, three inches deep, to receive the shank of the chisel (h). A hole of the same size is bored through at the
75 upper end of the socket, where the chisel is fastened with an iron key. The joints should be of such a length as to fill the space when straight between the head and eye blocks (6, 6').

80 A handle (7) of three and a half feet long is framed into the middle section of the joint, by which the machine is worked. A form (8) is halved and bolted upon the bed piece (3) with pieces rabbeted and
85 nailed on each edge, showing a groove, to guide and hold down the carriage (i) which is rabbeted so as to fill the groove and designed to move with the timber under the chisel (h). A roller (9) is suspended
90 by iron straps from the under side of the bed piece, around which a cord passes, attached to each end of the carriage. Holes are bored near the front end of the roller for a staff by which the carriage is moved.
95 A standard (l) is framed into the front end of the cross piece (2) and enters the front end of the bed piece, with a key accommodating the raising and letting down the bed piece. There are two gages, the stem
100 of one (m) passes under the carriage in a groove cut across the form (8) and both fastened by the screw bolt (c). The heads lie upon the carriage between which the timber to be worked passes. A leather strap
105 (o) is used for fastening the timber to the carriage.

The timber to be mortised or worked is laid out and prepared in the ordinary manner. In mortising hard timber it is best to
110 bore one hole into the center of the mortise, the work side is placed against the back

gage head, both of which are placed in their proper position on the carriage. The bed piece is graduated so that the edge of the chisel when to its lowest point will reach
5 to the bottom of the mortise. The machine is worked by taking hold of the handle (7) with one hand, and the staff (8) with the other and commencing at the hole in the mortise, the chisel in all cases facing ex-
10 actly toward the handle, moving it a little at every stroke of the chisel until that end of the mortise is finished: then without removing the work the handle is carried
15 around to the opposite side and commencing at the center as before, the mortise is fin-

ished. In dovetailing it is necessary to remove the front gage, and place the work, (after being properly prepared as above stated,) on the carriage, the chisel and handle facing to the front, and worked in a
20 manner similar to mortising.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the toggle joint, handle and chisel stock, applied to mortising
25 and dovetailing, as herein described.

JEHU BRAINERD.

Witnesses:

I. N. STEDMAN,
CHARLES C. HANSON.